

# **ABSTRACT**

## **Background**

Platelet rich plasma is a fraction of autologous whole blood with a concentrated platelet concentration above baseline value. PRP has been increasingly used in the treatment of chronic non healing ulcers, alopecia and in other conditions requiring augmentation of healing process.

## **Aim**

To evaluate the effectiveness of autologous Platelet Rich Plasma therapy in androgenic alopecia and chronic ulcer patients in the Department of Cosmetology, Stanley Medical College, Chennai.

## **Materials and Methods**

To date there is no universally accepted protocol. First centrifugation is done at 2000 rpm for 10 minutes. The plasma is collected and centrifuged again at 3000 rpm for 10 minutes to obtain platelet rich plasma. 42 androgenic alopecia and 4 chronic ulcer patients were studied. For male alopecia patients the outcome was assessed by comparing the alopecia grade before and after PRP treatment by Norwood Hamilton classification and for female patients by Sinclair scale. Patient's satisfaction rate was assessed by self assessment questionnaire. In chronic ulcer patients the wound area and volume of ulcers

was assessed before and after PRP treatment. The outcome was measured by the percentage improvement in area and volume of those ulcers.

## **Results**

A total of 59.52% patients showed improvement. In male androgenic alopecia patients, 10 had Grade I, 10 had Grade II, 2 had Grade III, 4 had Grade IV, 7 had Grade V, 4 had Grade VI and 1 had Grade VII alopecia initially before PRP treatment. After PRP treatment, all 100% with Grade I, 80% with Grade II, 100% with Grade III, 50% with Grade IV alopecia showed improvement. In female androgenic alopecia patients, 100% with Grade II alopecia showed improvement. The mean baseline platelet count of the patients was  $150 \times 10^3/\mu\text{L}$  and the mean platelet count of the autologous PRP prepared was  $1307 \times 10^3/\mu\text{L}$ . The mean satisfaction rate by self-assessment questionnaire was 11.07.

In chronic non-healing ulcer patients, the mean baseline platelet count was  $186.79 \times 10^3/\mu\text{L}$ . The mean platelet count of the autologous PRP prepared and used for treatment was  $1374 \times 10^3/\mu\text{L}$ . Dimensions measured before and after treatment showed significant reduction in the 'area' and 'volume' of the chronic ulcer with mean improvement percentage of 77.05% and 91.97% respectively. The chronic ulcers showed mean of healing time of 10 weeks.

## **Conclusion**

In a developing country like India, autologous PRP treatment could be an affordable alternative therapy for androgenic alopecia and chronic non-healing ulcers.

## **Keywords**

Platelet rich plasma, androgenic alopecia, chronic ulcers.